1957
III, No. 3

CALIFORNIA JOURNAL OF EDUCATIONAL RESEARCH

IN THIS ISSUE:

published by
CALIFORNIA TEACHERS ASSOCIATION
693 Sutter Street San Francisco 2 California

CALIFORNIA JOURNAL OF EDUCATIONAL RESEARCH

Published by the CALIFORNIA TEACHERS ASSOCIATION for the
CALIFORNIA ADVISORY COUNCIL ON EDUCATIONAL RESEARCH

Published at San Francisco five times a year: January, March, May, September, and November. Subscription price: $6.00 per year; single copies, $1.50. All correspondence should be directed to: CALIFORNIA JOURNAL OF EDUCATIONAL RESEARCH, 693 Sutter Street, San Francisco 2, California. Checks should be made payable to the CALIFORNIA TEACHERS ASSOCIATION.

Certain articles in this *Journal* are listed in *Psychological Abstracts*.

Member of the Educational Press Association of America

Entered as second class matter at the Post Office at San Francisco, California

CALIFORNIA JOURNAL OF EDUCATIONAL RESEARCH

Volume VIII MAY, 1957 Number 3

CONTENTS

THE EDITORS SAY:

We'll Buy That!

The March, 1957, issue of *Phi Delta Kappan* contains a challenge by William G. Land which all of us in educational research should read and take to heart. This is not the first time we have been reminded to research and write better than we do, but it is a sermon we can well attend to over and over again.

At the same time Mr. Land's observations go deeper than merely recalling our journalistic sins. He points out the long run significance of operating too much and too often from standards and criteria which are distrusted by members of the academic disciplines as well as by segments of the lay public. We believe he is correct in concluding that we have not abstracted carefully enough from our vast literature the experiences that actually matter, in order to present a solid edifice of truth and knowledge about the education process. True, we have the *Encyclopedia of Educational Research*, *The Dictionary of Education*, and scores of periodicals. These are rarely looked into by other than professional educators, and by these not even enough.

Mr. Land proposes a journal of "Abstracts of Educational Studies" to provide a condensation of current literature and research which will be widely read by those in education and those who are simply patrons of it. And in the American society, everyone is a patron of education. We agree that some "angel" should be found who will make the journal possible.

He hopes that the journal would go much further than to offer merely brief abstracts and conclusions of significant findings. The abstracts "will be useful only if they summarize the major points of discussion and present the essence of experimental findings with an indication of the degree of refinement of the analyses and correlations completed. Briefly, they should cover the inception and significance of the problem; the hypotheses presented; the nature and sources of and the assumptions made regarding data; the methods and measurements used; the results, conclusions, inferences, and further hypotheses proposed; and an indication of previous and current research relevant to the problem." Say, this sounds very much like the kind of articles we want for *CJER*, only longer.

You will recall the cartoon of the two Indians at their smoke signal fire, who are observing the mushroom cloud from the nearby atomic testing ground. We shall not repeat the caption as it might apply to Mr. Land's proposal, but will sign off with a hearty, "Amen!"—K.R.B.

The Relationship Between Perceptual and Intellectual Processes in Reading

G. T. Buswell

One of the measures of the success of the reading program of the elementary school is to be found in the reading habits of its pupils after they reach maturity. The data to be reported in this paper were obtained from university students, and, consequently, reflect the reading competence that is the end-product of the effort of the school at lower levels. Therefore, while the evidence to be presented comes from students at the college level, the main concern of the writer is with the basic reading habits which these students formed when they learned to read in the lower grades.

The particular issue with which this paper deals is the part played in learning to read, by the visual perception of language symbols, as contrasted with the intellectual processes involved in comprehending what is read. This distinction is rather intricate and requires careful thinking. As a psychologist, I am of course aware that percentual processes are also intellectual in character and that perception is meaningful recognition. I am certainly not trying to revive the concept of *mechanics* of reading. But one must differentiate between learning to recognize the meaning of strange verbal symbols and comprehending what these symbols convey when they are organized in sequences of sentences and paragraphs. We would all agree that the only ultimate objective of reading is comprehension. The issue is whether, while the child is learning to read, greater gains may be made by emphasizing the perceptual aspects of reading than by emphasizing training in comprehension. Let us try to be clear. I am not talking about reading nonsense syllables nor phonetic elements that have no meaning, but rather about learning to recognize verbal symbols presented visually whose meanings are already familiar to the child when presented orally.

Dr. Guy T. Buswell is an international authority on reading. He has served long and well in education. After teaching at the University of Chicago for thirty years, he became a member of the staff of the University of California at Berkeley, where he is associated with the School of Education. The numerous positions of honor and responsibility he has held include the presidency of the American Educational Research Association. The editors are proud to present this article which is based on his current work in the field of reading.

The issue may be clarified by comparison with learning to read a foreign language by one who can already read in his vernacular. For example, I cannot read the Norwegian language. This is not because I cannot comprehend what they write but because I cannot recognize the verbal symbols of their language. I can read the word "education" in English but when it is encountered in Norwegian it evokes no familiar response. What I need is not training in comprehending the Norwegian meaning of "education," but rather perceptual training in recognizing their verbal symbol so that it will arouse in me the meaning that I already possess. Learning a foreign language is not a matter of comprehending new meanings but rather of learning a new set of visual symbols. In the same way, learning to read the vernacular in the primary grades is mainly learning to substitute visual symbols for auditory symbols in conveying meanings that the child already comprehends.

My hypothesis is that difficulties in reading for many college students are due to lack of perceptual skill rather than the lack of ability to comprehend, and that this results from the fixing of perceptual habits in the elementary school before a sufficiently high level of maturity is reached. The school is often so much concerned with learning to comprehend new meanings that it does not give children a sufficiently high degree of perceptual skill in reading with meanings that they already possess. It sets them out on the highways to explore new ideas before they read well enough to get a driver's license.

The child has gone a long way in the development of language before the school tries to teach him to read. Within his range of experience he comprehends clearly in oral communication. When he fails to understand he asks questions in order that his comprehension may be clear. Comprehension is an over-all factor that covers both oral communication and reading. If the vocabulary and the ideas presented to the child when he first learns to read are kept within his range of experience, as is now usually the case, the principal new element involved in learning to read is the visual recognition of verbal symbols whose meanings are already familiar to him. In terms of the psychology of learning, we are dealing with the visual perception of verbal symbols, not with the comprehension of new ideas.

With college students, one would expect that a high level of skill in reading would permit a rate of reading that is in close agreement with ability to comprehend. To obtain evidence bearing on this relationship, the Van Wagenen Rate of Comprehension Test in silent reading and the Psychological Examination prepared for the American Council on Education, commonly called the A.C.E. test, were given to 378 upper division students in the University of California. The Van Wagenen test was chosen because both in vocabulary and in ideas it is so elementary that there could be no possible question of comprehension for students in the upper division of a

university. The mean raw score on the A.C.E. intelligence examination was 127 which corresponds to a percentile rank of 82 for the college freshmen on whom the test was standardized. The 378 cases were then divided into five subgroups based on A.C.E. intervals of 25 points, and the mean reading score on the Van Wagenen test was then computed for each subgroup. The usual positive correlation appeared, with an average increase of 5 points in reading for successive increases of 25 points on the A.C.E. In the group of 378 students there were 102 whose rate of reading ranged from the norm for the ninth grade down to the middle grades of the elementary school. It simply makes no sense to try to explain their scores in terms of lack of ability to comprehend. The subjects were upper division university students with a mean percentile rank of 82 on the A.C.E. intelligence test and the material being read was of middle elementary grade difficulty. This does not mean that the 102 students have a general reading ability at or below ninth grade level. Of course they can comprehend material that ninth graders could not understand. But it does mean that on a test where there can be no question of difficulty in comprehension, the perceptual habits of these 102 students are no more mature than those of pupils in the lower grades. They are slow readers and the indications are that their slowness is due to difficulties in perception rather than in comprehension. In 55 of the 378 cases the reading score was more than one standard deviation below the intelligence score.

The hypothesis that improvement in reading may be brought about by perceptual training has stimulated a number of kinds of experiments ranging from rather rigid tachistoscopic and eye-movement exercises to variations in classroom procedures and materials. So far the results have not fitted into any particular pattern of relationships.

In an attempt to find some rational order among the various kinds of training, a series of reading and perceptual tests was given to 60 university juniors and seniors. As a base for comparison, the rate of comprehension test previously mentioned was given to the entire group. Then four perceptual tests were administered. First, a specially devised 5-choice word-perception test containing 50 items was given. Second, eye-movement records were made of the silent reading of a standard selection. Third, responses were obtained to a series of 43 tachistoscopic slides containing words, numbers, and geometric designs. Fourth, an additional body of evidence was computed from unpublished data on 223 clinic cases obtained while I was director of the adult reading clinic at the University of Chicago. These data were scores from a film strip consisting of 72 exposures of material ranging from single words to four word phrases. These were presented to the subjects individually by means of a specially constructed tachistoscopic projector at a rate of ¼ second per exposure, which corresponds to the normal duration of an eye-fixation of an average adult reader. This test represents a tachistoscopic experience with phrase patterns as

compared with isolated words or numbers. Correlations were then computed between rate of reading and the four measures of perception. The results were as follows:

(1) Rate and tachistoscopic presentation of words, numbers, and geometric forms, + .06

(2) Rate and paper and pencil word perception test, + .24

(3) Rate and film test of words and phrases, + .35

(4) Rate and eye-movement span of perception while reading, + .63

These correlations may give some direction for further experimentation in either the laboratory or the classroom. As the perceptual factor that was measured moves from isolated to organized materials the correlations become higher. The low correlation of + .06 between rate of reading and tachistoscopic exposure of numbers and words gives no reason to expect improvement in reading from such training. Previously reported experiments of this sort have been generally disappointing. When word perception as measured by discrimination between words and non-words on the paper test is correlated with rate, the coefficient is higher than with the tachistoscopic exposures, but the index of + .24 is too low to support the expectation that training with isolated words will function strongly in reading. When words are grouped into phrase patterns, as in the film perception test, the correlation increased to +.35. But when span of perception is measured in a functional reading situation, as was the case when eye-movements were recorded, the correlation increased to a rather substantial + .63.

Evidence is now available from a considerable number of studies to show that perceptual training in a remedial or clinical situation will improve rate of reading to a marked degree and without loss in comprehension. A study by the writer, reported in the Scientific Monthly for June 1947, gave the results of the five-year experiment with the adult reading clinic at the University of Chicago. Complete data were available for 234 cases who went through a four-week, 20-hour, course of corrective exercises that were primarily perceptual in character. Careful measures of rate and comprehension were made at the beginning and end of the course. The results showed an average gain of 54 per cent in rate of reading without loss in comprehension. The measured perceptual changes were primarily in span of recognition, with somewhat less gain in speed of recognition. Improvements of a similar sort have been reported in other studies.

One further type of evidence was obtained from the group of 60 university students. A series of readings of cards containing five paragraphs each from the Minnesota Speed of Reading Test for College Students was administered through a reading rate-controller at rates in increasing intervals of 50 words per minute, with a check on comprehension after each paragraph

was read. At the beginning of this test the reader's normal rate of reading was obtained from a sample card containing five paragraphs. For each succeeding group of paragraphs the rate-controller was accelerated by 50 words. This was continued as far as the subject could go up to a limit of a thousand words per minute. Also, each subject read one group of paragraphs at a slowed down rate of 100 words per minute below his normal rate. The results were measured in terms of how much acceleration in rate a subject could take before making an error in comprehension. Four subjects could take no acceleration without making errors in comprehension, 13 subjects could take from 50 to 100 words per minute acceleration without error, 14 subjects could take from 150 to 200 words, and 29 subjects took from 250 to 300 words of acceleration without error. Some of this latter group could undoubtedly have taken even more pressure had the ceiling of the test been higher. It is clear that more than half of these students have the perceptual potential to read at least 200 words per minute more rapidly than their normal rate. Some place in their school experience they have crystallized their perceptual reading habits at a point far below their capacity. For anyone who may still believe in the special virtue of slow reading, it should be noted that for the set of paragraphs in which rate was decreased to 100 words per minute below normal, four times as many subjects made errors in comprehension than when the rate was accelerated to 50 words per minute above normal.

The unique characteristic of reading lies in perception rather than comprehension. Comprehension is an over-all factor that applies to listening and thinking as well as to reading. The new element encountered in learning to read is the perceptual recognition of the printed verbal symbols. Lack of a high degree of competence in this perceptual skill blocks particularly those individuals who have the intellectual competence to comprehend rapidly. This is a marked handicap for many college students and also for other adults who have a breadth of interest that can be satisfied only through reading. The present state of research in reading indicates that rate of reading may be increased by improving perceptual skills. I have no interest in phenomenal rates of reading. But I can think of no greater contribution that the elementary school could make to the college than to stimulate an increase of, say, 25 per cent in rate of reading for that portion of its pupils who have the kind of ability that could lead to college. This is an attainable increase which could result from a clearer distinction between perceptual factors on the one hand and intellectual factors of comprehension on the other.

Experimental Program for the Preparation of Secondary Teachers

JAMES C. STONE

The experimental program for the preparation of secondary school teachers offered through the School of Education, University of California, Berkeley, is essentially an "earn while you learn" program centered around a teaching internship. It was initiated in part by criticisms of present programs of teacher education recently voiced at the White House and Governor's Conferences on Education, and in part by the desire to recruit teachers into shortage fields in secondary schools. The program is financed by the Rosenberg Foundation of San Francisco.

Specifically, the purpose of the program is two-fold: 1. to tap a new source of supply of secondary teachers particularly in the shortage areas, and 2. to try out new approaches and techniques in teacher education for the possible improvement of the "regular" teacher education program at the University.

Organization of the Program

The interns are persons with bachelor's degrees who have had no courses in education and no teaching experience. The phases of the program and their unit credit values are as follows:

Initial summer session designed as preparation for the teaching internship. The core of this summer program in 1956 was eight weeks of student teaching at Oakland Technical High School, the University operated summer demonstration high school. Concurrent with this student teaching a daily two-hour seminar was given. **Nine weeks, 8 units of credit.**

A year's internship as a full-time teacher on a special type of provisional credential issued by the State Board of Education for "pilot programs in teacher education institutions experimenting with the teaching internship." A weekly seminar is included as part of the internship. **Ten units in all.**

Since June 15, 1956, James Champion Stone has been Director of Teacher Education and Associate Professor of Education at the University of California at Berkeley. He went to this position after long service as Specialist in Teacher Education for the California State Department of Education. His experience also includes service as Assistant Director of Placement and Guidance for Stanford University and as a teacher in the elementary and secondary schools of Cincinnati, Ohio. He received the doctor of education degree from Stanford University in 1949.

Final summer session, 10 weeks. Six units in subject matter fields and 4 units in Education.

Upon successful completion of these 28 semester hours of credit, the intern will be recommended for a regular general secondary credential, and will be followed by the project staff through his second year of teaching on a regular credential.

Supervision during the entire program is provided by the employing school district, the project staff, and the regular University subject supervisors.

The project staff is responsible for evaluating the program.

Selection of the interns. Criteria for selection include:

a) a bachelor's degree,
b) acceptance by the Graduate Division of the University,
c) a major or a minor in a shortage field,
d) personal fitness for teaching,
e) a teaching position with a cooperating school district.

Varying patterns of supervision. During the year of internship the employing school district assumes primary responsibility for supervision of the intern. Each of the eleven cooperating districts has designated an experienced teacher as a "big brother helper" to the intern. In addition, principals, curriculum assistants, and department heads assume with interns the usual supervisory responsibility provided beginning teachers; likewise in some districts, central office supervision is available to assist the intern. The specific pattern of supervision varies. Each district recognizes and accepts the supervision of the intern as a prime responsibility with the project staff and the University subject supervisors supplementing the effort of the local district.

How the Program Will be Evaluated

From the standpoint of evaluation, the School of Education is concerned primarily with two questions: (1) Does the special program prepare successful beginning teachers, and (2) if so, why; *i.e.* what ingredients in the program contribute to this success? No attempt will be made to compare exactly and comprehensively the success of the interns with that of a comparable group of beginning teachers who complete the "regular" secondary program. However, some valuable observations on this point should be available.

The project staff is creating, collecting, and utilizing a number of objective and subjective evaluation techniques and these are being applied

at various points in the program. Some forms of evaluation being used include:

1. A questionnaire on attitude toward teaching given the first day of the program and given again at the end of the first summer's preparation.
2. Daily evaluation sheet by each intern.
3. Weekly "log" or "diary" by each intern.
4. Weekly staff member-intern conferences.
5. An evaluation committee of supervising teachers at the Summer Demonstration School which met once each week during the summer. (These meetings were recorded on tape.)
6. Regular mid-term and final "Progress Report" by supervising teachers at the Summer Demonstration School, utilizing the same form used for "regular" student teachers.
7. Letters of recommendation by supervising teachers.
8. Why-did-you-employ? information from school officials who hired the interns.
9. Miscellaneous evaluation made by the project staff from class visitations and by conferences with interns and supervising teachers.
10. Composite evaluation by the project staff for grading purposes at the conclusion of the initial summer session.

Other forms of evaluation are being developed which will be applicable to the full-time teaching internship experience. A part of the total evaluation will include what the interns brought with them to the program in the way of training, experience, and abilities. The ultimate measure of the success of the program is each intern's demonstrated teaching ability.

Selection of the First Group

Announcements in the newspapers and publicity given by academic departments within the University were the main methods of recruitment. The enthusiastic response of academic departments was the key to successful recruitment of the initial group. Of over 100 applicants, thirty-eight met the criteria for preliminary acceptance and filed for teaching positions through the University's Office of Teacher Placement. Of these thirty-eight, twenty-three were offered contracts by school districts. Since it was recognized that the first year was a pilot year for the project, the number was deliberately kept small. Of the twenty-three beginning the program, two were dropped early in the summer. Another one was dropped after a month of teaching in the fall.

Statistics on the remaining twenty interns are as follows: 6 men, 14 women; 13 married, 6 with children; age range, 20 to 37 (two-thirds were in the age group 20-25); number with bachelor's degrees granted in June 1956, 8; number of institutions where bachelor's degrees were secured, 9.

The institutions and number of interns holding bachelor's degrees from them were: University of California—11, Iowa State College—2, Oregon State College—1, University of Illinois—1, Pennsylvania State University —1, Fresno State College—1, San Francisco State College—1, Occidental College—1, Stanford University—1.

The fields of preparation represented were: Homemaking—7, Science —5, Mathematics—2, English—2, Business—1, Girls' Physical Education —1, German—1, Music—1.

The eleven cooperating school districts and the number of interns they employed were: Oakland—6, Hayward—3, San Rafael—3, Pleasanton—1, Sonoma—1, Antioch—1, Albany—1, Alameda—1, Piedmont—1, Berkeley —1, Richmond—1. Teaching assignments were distributed among ten junior high schools and ten senior high schools.

The Initial Program

Experiences Provided in the Summer Session. The first week of the nine-week summer session was devoted to a general orientation to teaching. For the remaining eight weeks, the program was centered at Oakland Technical High School, the University-operated Summer Demonstration School. The school's program is organized in four periods of one hour and twenty-six minutes each. Each intern was assigned to two classes for student teaching under the direction of a master teacher (the teacher employed to teach the class). The use of student teaching as the initial phase of the professional sequence was undertaken as an experimental "up-side-down" approach to the professional education of teachers—an approach involving practical experience with a classroom of youngsters concurrent with theoretical preparation. The interns' other two daily periods were devoted to observation, preparation, and conference.[1] An important factor in the overall success of the initial summer student teaching was the quality of the master teachers and the amount of help and assistance they were able to give the interns. At the close of the Demonstration School day the interns gathered for a "fifth period"—a two-hour seminar led by the project staff. The purpose of the seminar was to analyze and discuss the theoretical implications of problems encountered by the interns in their student teaching. **What** to teach and **how** to teach were given equal attention in planning and conducting the seminar. It was the desire of the project staff to have the methods of teaching used to serve as an example to the interns of various teaching techniques.

The initial attitude of the master teachers at the Summer Demonstration School was one of skepticism regarding the interns' ability to teach

[1] **The interns averaged 65 clock hours of actual student teaching, plus an average of 37 clock hours of observation and participation. The range in clock hours of student teaching was 47 to 108; range in clock hours of observation and participation—5 to 85.**

before having the usual preparation. However, within a week all interns had taken over at least one class, and with their success the master teachers' skepticism turned to enthusiasm for the program. At the end of the eight weeks of student teaching and related seminar, the master teachers as well as the principal and vice-principal of the school were unanimous in the opinion the interns were characterized by a high degree of motivation and enthusiasm for teaching.

In terms of the requirements for a regular general secondary credential, the special program is as follows:

Requirements for General Secondary Credential*	U.C. Internship Program	
Twenty-two semester hours of professional education including:		*Semester Hours*
1. Curriculum, methods, evaluation of instruction (including audio-visual aids)	9 weeks, summer 1956	8
2. Scope and function of secondary school	Fall semester, 1956	2
3. Growth and development	Spring semester, 1957	2
4. Six semester hours of directed teaching	Internship, 1956-57 school year	6
5. The learning process, mental hygiene, or personality development, counseling and guidance	Final four weeks, summer session, 1957	4
	Total in Education	22
6. *One year of 30 semester hours (or year certified as a year of graduate work by an accredited institution)† to include:*		
6 semester hours in Education	Second semester, 1957 plus last 4 weeks of summer, 1957 (6 semester hours included above)	
6 semester hours in subject fields	First 6 weeks, summer, 1957	6
	Total for program	28†

* As listed in the *California Administrative Code, Title V, Education.*

† At the University of California a year of graduate work has been defined as 24 semester hours. This is the unit value of the "regular" secondary program. Both the "regular" and the special program require 28 units. Some are taken as undergraduate units in the "regular" program.

The internship commenced with the opening of the fall 1956 semester in the cooperating school districts. The teaching of each intern was observed by the project staff and the building principals during the first two weeks of full-time teaching. In every case, the interns had been accepted by the school faculty as "regular" beginning teachers.

After their first two weeks of regular teaching the interns, in general, continued to be characterized by a high degree of enthusiasm for teaching. In a recorded reaction to their first days of teaching, the most frequently mentioned observation by the interns was the help the practical approach during the summer had been in making it possible for them to get started with a full-time teaching internship.

Observations on the Program and the Interns

Obviously, it is too soon to draw any conclusions and too few persons are involved to make any generalizations. However, a few tentative observations seem appropriate even at this early stage in the pilot study.

Regarding the Program

1. The practical experience of student teaching under experienced supervising teachers in the summer made the educational theory presented in the accompanying seminar significant and meaningful.

2. The use of a team of instructors who are closely identified with the laboratory experience may be more effective than the usual compartmentalizing of theory courses under separate instructors.

3. The assigned daily student teaching experience with the accompanying seminar made it possible to develop in a nine-week period persons who were able to undertake a full-time teaching internship.

4. The shorter period of time between the beginning of professional preparation and actual full-time teaching resulted in a marked increase in motivation.

5. A desirable partnership relation among academic departments, the education department, and cooperating school districts is inherent in the special program.

6. The expansion of the program during the ensuing three years will depend largely on both the recruitment activities of academic departments within the University and the willingness of cooperating school districts to provide internship opportunities.

7. The special program is "another" way to prepare teachers—one which may bring into the profession a group of men and women who otherwise would never become teachers. It is not a substitute for the regular program.

Regarding the Interns

1. As they begin their teaching internship, they have been observed to be adequate for the responsibilities. The University and the cooperating

schools are thus faced with this challenge: In the remainder of the time prior to full certification, how can these interns be developed into superior teachers?

2. They are strong in subject matter background.

3. They are superior to "regular" student teachers in their strong desire to succeed and in their enthusiasm for teaching.

4. The previous vocational experiences of many of them have given them a marked degree of maturity.

5. They represent a "selected group" only to the extent that they possess those personal qualities necessary to be selected for employment by a school district prior to beginning professional preparation, in contrast to the "regular" program in which the professional preparation precedes selection for employment.

In General

The obvious enthusiasm of the project staff for the program, and the *esprit de corps* among the interns because they are an experimental group must be weighed in assessing validity to these observations.

The Educational Television and Radio Center will continue to help research groups investigate the various uses of television for education during 1957-58, according to an announcement made by President H. K. Newburn on April 8. He said the Center will make individual awards of from $500 to to $5,000 each to help qualified research groups in studying uses of TV for education. Last year the Center awarded grants totaling $35,000 in partial support of 10 research projects.

New grants will be given in support of investigations into the uses of television in the classroom; for studies of the impact of special programs on TV audiences; for identification of distinctive attributes of the medium as an educational tool, and for follow-up studies of previous research.

"The Center will not cover full costs of any studies," Newburn pointed out, "but hopes that the awarding of grants-in-aid will help to initiate new research and continue projects already in progress. The Center is not a research organization but is interested in stimulating studies in ETV."

Newburn said grants will be awarded only to educational institutions properly qualified to conduct research work. Grants will cover the period through May 31 of 1958 and applications should be submitted to Dr. Ryland W. Crary, director of education for the Center, located at 2320 Washtenaw Avenue, Ann Arbor, Mich., before June 1.

The Roles and Competences of Teachers of Industrial Arts Education

GLENN IRVING NEWHOUSE

The purpose of this study was to determine how the staff members of the college industrial arts departments perceived the roles of secondary school industrial arts teachers, and to evaluate the relative emphasis placed on each role in the program of teacher preparation.

Importance of the Problem

The importance of the problem lies in the fact that in our profession there are many who must make crucial decisions on the basis of some definition of teaching expertness, yet no objective definition of the competent teacher exists today. Whether as an administrator, school board member, supervisor, teacher educator, placement officer, parent, or merely one of the various critics of the public schools, each of us has his definition of teaching competence, vague or clear, narrow or comprehensive, and it must serve as the basis for significant decisions. Unless there is a common understanding or area of agreement to guide our thinking, the result must be confusion, controversy, and inefficiency. This has long been the situation, and this general need to define good teaching still exists today.

The Research Plan

"Factors In Teaching Competence"(10), sometimes called the "California Definition of Teacher Competence"(9), theoretically defines general teaching effectiveness, and has authoritative recognition in the field of education (10,1). In this study the "California Definition" has been adapted specifically to industrial arts teachers in the public secondary schools.

Data for this research were secured by use of a written instrument and a personal interview. The fact that this study includes an entire population in the state, eliminates sampling erors so far as California is concerned.

This description of the six teacher roles briefly outlines the functions that differentiate each role and, in a general way, indicates the areas of teacher competence called for in the role.

Glenn I. Newhouse is Supervisor of Industrial Arts Education for the Oakland (California) Unified School District. Previous to accepting his present position in 1956, he was with the San Francisco Unified School District for over nineteen years, during which he served at various times as a teacher, a counselor, and a department head. He, his wife, and three children, are all native Californians. This article is a digest of his doctoral dissertation, for which he received the degree of doctor of education from Stanford University in 1956.

Teacher Roles in Promoting Pupil Growth

Role I. A Director of Learning. The need for expertness in guiding learning activities in the classroom and other group situations is widely recognized. Some of these activities are designated to provide for important outcomes required of all pupils, such as skills in the fundamental processes, while others may be designed specifically to develop competence in democratic processes. All of them call for competence in group leadership based on:

a. A clear understanding of how pupils learn, as demonstrated by ability to plan and direct learning activities that incorporate effective motivation, and opportunity for critical thinking and generalization.

b. An understanding of the individual pupil, as demonstrated by the ability to meet individual needs and develop individual talents in a group situation; and

c. Ability to appraise the effectiveness of group activities in achieving desired outcomes.

Role II. A Counseling and Guidance Worker. Two major functions, which differ more in purpose than in the activities they call for, are to be served in this role. First, there is the responsibility to society to provide healthy and emotionally mature individuals prepared to fill all the important social roles. Second, is the responsibility to help the pupil to become fully effective as an individual. Both of these responsibilities call for teachers who can deal effectively with the pupil in individual relationships.

Teacher competence in this role, accordingly, is based on:

a. Ability to establish effective relationships with the individual pupil;

b. Ability to collect pertinent counseling information about the pupil;

c. Use of suitable counseling techniques to guide the pupil in understanding himself and arriving at a solution of his own problems;

d. Information about the society the pupil will enter, and the opportunities it affords for service, as demonstrated by helping the pupil to match his own capacities and interests with the requirements and opportunities in various fields of endeavor;

e. Effective relationship with the home;

f. Recognition of the need, when it arises, to call on specialized services for serious problem cases.

Role III. A Member of the School Community (Staff). The teacher's responsibility for program building within the local system is directed toward three important educational functions: First, to provide an articulated series of learning experiences leading to desired objectives; second, to provide an effective environment for developing the skills and attitudes needed for effective citizenship, and for meeting developmental needs; and third, to provide for joint planning with the public on purposes and programs in education. The classroom is articulated with the all-school unit in each of these functions.

Competence of the staff is revealed in several areas essential to efficiency in these functions:

a. A continuing study of over-all purposes and objectives of the school, jointly with the public, and the articulation of classroom objectives to those accepted for the school as a whole;

b. Planning of curricular and co-curricular activities, with those for each classroom articulated into an effective over-all sequence;

c. Sharing in the administrative responsibility for effective operation of the all-school program; and

d. Sharing in the evaluation of all-school objectives.

Liaison Roles of the Teacher

Role IV. A Mediator of the Culture. To see that the oncoming member of society acquires his cultural heritage is a major responsibility of the teacher, as a mediator of the culture. The effective member is informed about its nature and problems, accepts its behavioral controls, and also shares in the contributions of the fields of learning. Social values and behavioral controls vary from one culture to another, and in the same culture from time to time. It is for this reason that the definition of teaching competence depends so largely on value judgments, and differs so sharply among cultures.

It is this relationship to the culture also that differentiates this role from Role I, the director of learning. Expertness as a director of learning, which is based on understanding of how pupils learn, is transferable from one culture to another. As a mediator of the culture, however, the teacher must not only be a scholar; he must also exemplify the attitudes and ideals valued by the culture. What is worth learning depends primarily on the society served by the school.

In our society, for example, problem solving abilities, and the techniques for effective participation in the solution of social problems are qualities desired in each member. The worth and responsibility of the individual are stressed as social values. Classroom and school activities must reflect these values. The teacher who is an effective mediator of the culture will:

a. Define his objectives so as to include the values that are important in the culture;

b. Utilize his field of specialization to develop problem-solving effectiveness;

c. Design his activities to develop ability and motivation for solving social problems; and

d. Develop the appreciations, attitudes, and abilities required for effective participation in a democratic society.

e. Have acquaintance with the fields of learning, and depth of scholarship in at least one of them.

Role V. A Link with the Community. The teacher is the link between the organized society and its oncoming member. The effectiveness of the school is measured by the success with which today's children can meet the responsibilities of membership in tomorrow's adult society. This role, accordingly, includes liaison functions which are necessary for two purposes: First, to work cooperatively with the public in developing and interpreting an effective program of education; and second, to provide for a systematic induction of youth into increasingly important community activities. Competence in this role will be demonstrated by:

a. Ability to participate with the public in planning the goals of education, and in interpreting the school program.

b. Finding opportunities for educationally valuable pupil services to the community, and in utilizing the resources of the community to develop significant applications of subject-matter; and

c. Exercising leadership in community affairs with the purpose of making the community a better place in which young people may grow up.

Role VI. A Member of the Profession. Effectiveness as a member of the profession calls for competence in three general areas of professional behavior:

a. *Personal relationships* (with his pupils, colleagues, and the public). In education this is indicated by willingness to render appropriate services beyond those he is committed to; or contributing to the prestige of the profession by exemplifying the scholarship and ideals valued by society.

b. *Continued professional growth.* The well prepared teacher is one who can develop more effective practices to meet new and more important requirements. Such professional growth is revealed by such activities as these: Developing and testing more effective procedures individually in the course of his classroom activity, or in collaboration with specialized professional groups; keeping informed on current trends, tendencies, and practices, through the professional literature, or attendance at professional meetings; and contributing to the professional literature.

c. *Effectiveness in contributing to the definition and achievement of the goals of the profession.* These impose an array of important tasks: To improve the quality of membership, through improved programs of preparation, accreditation of programs, certification requirements, and recruitment of desirable personnel, etc.

Some of these tasks are directed by leaders with special preparation, while others are assumed by professional organizations, lay-professional groups, professional schools, or by individuals.

The preceeding six roles encompass the areas in which professional competence is required of the general teacher. The nature of such competence is described further in "Measure of a Good Teacher"(9).

The roles in this study were comprised of competences which specifically applied to industrial arts teachers. All full-time industrial arts teacher educators employed in California colleges granting a major in industrial arts were included.

Findings

California industrial arts teacher educators perceived the industrial arts teacher roles in the order of importance shown in Table I.

TABLE I
Teacher Educator's Choice of Teacher Roles*

Roles	Per Cent of Emphasis	Rank
I A Director of Learning	21.0	3
II A Counseling and Guidance Worker	21.5	1
III A Member of the School Community	11.9	5
IV A Mediator of the Culture	21.4	2
V A Link with the Community	10.2	6
VI A Member of the Profession	14.0	4

* Each role would receive approximately 16.7 per cent, if all were recognized to be of equal importance.

In the instrument used in this study, eight competences were listed for each teacher role. The competence most frequently recognized in each role is indicated below:

Role I. A Director of Learning—Encourages students to properly apply related subject matter learned in other classes, to a functional use in their shopwork (chosen 50 times).

Role II. A Counselor and Guidance Worker—Utilizes the flexible nature of industrial arts classes to discover and develop the most valuable traits or abilities of each child (chosen 52 times).

Role III. A Member of the School Community—Participates on school wide curriculum committees to enhance the contribution of industrial arts to the all school curriculum (chosen 38 times).

Role IV. A Mediator of the Culture—Encourages students to learn to do critical thinking relating to problems in technical and industrial matters (chosen 45 times).

Role V. A Link with the Community—Uses displays in the school and community to publicize the school program and aid community relations (chosen 25 times).

Role VI. A Member of the Profession—Participates actively in general professional organizations (chosen 45 times).

A very few teacher educators failed to recognize the importance of items in each of the six roles, and all six were perceived as being of sub-

stantial importance. The pattern of role perception was found to be reasonably consistent throughout the various institutions studied in the state.

TABLE II

Variation Among the Eight Colleges Studied

Indicated by the per cent of items in each role selected as being important*

College	*Number on Staff*	*Roles: Per Cent of Response to Each*					
		I	*II*	*III*	*IV*	*V*	*VI*
1	6	16.7	17.5	15.8	18.3	14.2	17.5
2	9	23.3	22.8	11.1	18.9	10.6	13.3
3	5	25.0	19.0	8.0	26.0	9.0	13.0
4	3	23.3	23.3	10.0	21.7	6.7	15.0
5	5	18.0	22.0	12.0	27.0	11.0	10.0
6	3	20.0	13.3	16.7	16.7	13.3	20.0
7	12	21.7	23.3	10.0	20.8	12.1	12.1
8	19	20.5	22.3	12.6	21.9	7.7	15.0
Total Group	62	21.0	21.5	11.9	21.4	10.2	14.0

* Each role would receive approximately 16.7 per cent, if all were recognized to be of equal importance.

One may notice that in most instances, the actual differences in the most recognized roles I, II, and IV, are relatively small, while greater variations were found to exist between the lowest three roles III, V, and VI.

Age appeared to be the factor that most affected role perception among this population. Those "36 years of age and younger," perceived Role V, *A Link with the Community,* and Role VI, *A Member of the Profession,* as significantly more important at the .05 level. Those "50 years of age and older," perceived Role II, *A Counselor and Guidance Worker,* as more important at the .02 level of confidence.

TABLE III

Comparison of Role Perception of College Teacher Educators and Public School Industrial Arts Coordinators

Roles	*Per Cent of Items in Each Role Selected as Being Important*					
	I	*II*	*III*	*IV*	*V*	*VI*
College Teacher Educators	21.0	21.5	11.9	21.4	10.2	14.0
Industrial Arts Coordinators	22.3	19.3	10.3	25.7	6.7	15.7

Fifteen industrial arts supervisors were found to perceive the industrial arts teacher roles in a very similar manner to the teacher educator

of this study. These two groups present a similar pattern. The only significant difference appears to be that the supervisors preferred Role IV, *A Mediator of the Culture* at the .05 level of confidence.

Teacher educators of this study were compared with a recent research on the high school teacher's role perception(7). In Fishburn's study no difference was found between the teacher role perception of secondary school teachers of industrial, and academic subjects.

TABLE IV
Comparison of Role Perception of College Teacher Educators and Regular High School Teachers

	Per Cent of Items in Each Role Selected as Being Important					
Roles	*I*	*II*	*III*	*IV*	*V*	*VI*
College Teacher Educators	21.0	21.5	11.9	21.4	10.2	14.0
High School Teachers	18.7	16.6	18.4	26.1	9.7	10.5

Noticeable differences are apparent between the perception of these two groups in Roles II, *A Counselor and Guidance Worker;* III, *A Member of the School Staff;* IV, *A Mediator of the Culture;* and VI, *A Member of the Profession.*

The administrators of this comparative study indicated perceptions nearly opposite to that of the teacher educators.

TABLE V
Comparison of Role Perception of College Teacher Educators and High School Administrators of One City

	Per Cent of Items in Each Role Selected as Being Important					
Roles	*I*	*II*	*III*	*IV*	*V*	*VI*
College Teacher Educators	21.0	21.5	11.9	21.4	10.2	14.0
High School Administrators	13.7	14.1	20.8	6.6	24.1	20.7

It is evident that no common point of view exists among these key groups entrusted with the education of our children. Further confusion

and impairment of the educational processes is certain as long as teacher educators, high school teachers, and administrators perceive the teacher roles in such diverse ways. One can imagine the predicament of the young teacher entering his first teaching position reflecting the values expounded by teacher educators, finding that the high school teachers, his colleagues, hold another point of view. In addition, his administrator, who in many cases hires him, rates his efforts, and to a large extent evaluates and controls his success in the profession, holds still another view. It is important that a common point of view be held by these groups. This problem presents a real challenge to California's professional institutions and organizations. The full implications of many neglected roles need intensive study, as do the methods of preparing teachers to perform them.

Finding the exact amount of emphasis desirable for each role is not the objective of this research. This writer has confidence in the teaching profession which leads him to believe that when these roles are fully understood by educators, they will provide a satisfactory balance of emphasis according to their aptitudes and abilities. The emphasis now must be on as complete an understanding of all the roles as is possible.

Suggested Utilization of Findings

Besides the above recommended steps, it seems important that the findings of this and other research of a similar nature be utilized in the following manner:

1. Published in professional journals to stimulate widespread interest, understanding, and use of this definition.
2. Used to reveal to the public the scope and importance of the teacher's many responsibilities.
3. Used in teacher recruitment efforts to define more clearly the responsibilities and social importance of the teacher's activities.
4. Used to assist the selection of candidates for adminttance to the teacher education program.
5. Used as a basis for evaluation of present and future programs of industrial arts teacher preparation.
6. Used in in-service courses for improving the preparation of industrial arts teachers.
7. Used by individual industrial arts teachers at all levels, as an aid in self-evaluation of their competence.

Conclusions

This research indicates common areas of agreement, and some disagreement about industrial arts teacher roles. A pattern of role perception has been found for the California industrial arts teacher educators studied.

This research has helped to define the responsibilities of the teacher, and demonstrate the use of the "California Definition" with industrial arts teacher educators. These findings can serve as the basis for the development of an objective, authoritative definition of expertness in industrial arts teaching.

BIBLIOGRAPHY

1. American Association of Colleges for Teacher Education. Seventh *Yearbook*, 1954. 226 p.

2. American Vocational Arts Association. *A Guide to Improving Instruction in Industrial Arts.* 1953. 119 p. (American Vocational Arts Association, 1010 Vermont Ave., N.W., Washington 5, D. C.)

3. Barr, A. S. *et al.* "The Measurement and Prediction of Teaching Efficiency: A Summary of Investigations," *The Journal of Experimental Education,* XVI (June, 1948), 203-83.

4. California Teachers Association, Commission on Teacher Education. *Teacher Competence: Its Nature and Scope.* San Francisco: The Association, 1957. 48 p. This is a revision of *Measure of a Good Teacher* by Lucien Kinney published since the study reported in this article was made (item 9 on this list).

5. Domas, Simeon J. and Tiedeman, David D. "Teacher Competence: An Annotated Bibliography," *Journal of Experimental Education,* XIX (December, 1950), 101-218.

6. Ericson, Emanuel E. "Teacher Education in Industrial Arts," *Industrial Arts and Vocational Education,* XL (February, 1951), 45-8.
—— "Twofold Responsibility in Industrial Arts Teacher Education," XLI (May, 1952), 147-9.

7. Fishburn, C. E. *Teacher Role Perception in the Secondary Schools of One Community.* Unpublished Ed.D. Dissertation, Stanford University, 1955.

8. Groneman, C. H. "Effective Training of Industrial Arts Teachers," *Industrial Arts and Vocational Education,* XLIII (April, 1954), 127-30.

9. Kinney, Lucien B. *Measure of a Good Teacher.* San Francisco, California Teachers Association, 1953. 36 p. See also item 4.

10. National Commission on Teacher Education and Professional Standards. *Factors in Teaching Competence;* Report of Special Group A, Albany Conference, June 1954. Washington, D. C.: National Education Association, 1954. 12 p.

11. Ryans, David G. "Notes on the Rating of Teacher Performance," *Journal of Educational Research,* XLII (May, 1954), 695-703.

12. Sotzin, H. A. "Trends on the Educational Horizon," *Industrial Arts and Vocational Education,* XLIV (June, 1955), 186-88.

13. Tarbell, R. W. "Practice vs. Theory," *Industrial Arts and Vocational Education,* XLIII (April, 1954), 135-37.

A Proposed Study of the Duties of California's School Psychologists and Psychometrists

VERDUN TRIONE

This paper is directed toward those who are sensitive to the growing opinion concerning the professional training and duties of school psychologists and psychometrists of public schools(3, 5, 6). Levine(3) recently pointed out the serious need for research concerning the role of the school psychologist and its relationship to the field of psychology as well. From a review of the above indicated literature there appears to be no consistency for training in the State of California, much less the rest of the nation. Michigan and Illinois(1) apparently have some training programs specifically directed toward the school psychologist. Therefore, there appears to be a need for evaluation of professional standards and a level of training.

A recent symposium at Columbia University(6) pointed out that there is a rapid change in the functions of school psychologists and a lag in general knowledge of the more advanced training for these psychologists. Newland(5) summarized the legislative provisions for psychological services in various states; titles that are designated and the types of services provided. He pointed out patterns varying from those that were systematically planned to a sporadic use of psychological services; that school psychologists function under at least sixteen different legally established titles, again indicating the need for some systematic evaluation of what constitutes the services of school psychologists or psychometrists in public schools.

Legal Responsibilities

Of particular interest to this writer is the fact that school psychologists, or any group of psychologists, can come within the confines of certain legislation and legal definition as to duties. The Thayer Conference(2) did not report on this aspect of the School Psychologist's responsibility. Apparently this is a problem that has been considered but rarely in the

---

Verdun Trione is Psychological Consultant for the Mendocino County Schools Office. Before coming to this position two years ago, he had five years experience as a school psychologist in California. His earlier experience included teaching in Chicago and work as a clinical psychologist in Illinois. He holds the master's degree from De Paul University of Chicago.

literature, *i.e.* the role of the psychologist as a source of expert testimony in the court of law. In the State of California the duties of the school psychologist are such that they are inferred or directly defined within the *Education Code*. It is probable, along with the growth of special education activities and facilities in the State of California, that he is going to be called upon more and more to render his professional opinions as an expert witness relevant to the disposition of cases that may be challenged from time to time. This writer has been called upon to act as an expert witness in the disposition of cases through a given court. Schofield(7) advises that psychologists should be alert to participate in reviews of legal concepts and procedures bearing on psychology and have also the responsibility to bring legal practice into line with facts derived from scientific investigation of behavior, and it is his further responsibility to educate those professional people within the legal profession. This is further substantiated by McCary(4), that the role of the psychologist must possess more certainty. McCary(4:10) points out discrepancy in many courts, citing the example that within one federal district a psychologist was permitted to testify as an expert and in that same district the objection of the defending attorney was sustained in a different case; consequently the psychologist's testimony was not admitted in the latter case.

The school psychologist, perhaps, comes closer to attaining the status of an expert witness, as inferred by McCary(4:12), for the school psychologist works within the confines of one of our social institutions; he is certified by the State which requires certain minimum educational and experiential background, thus regulating his practice of psychology. This, in itself, creates a class out of which a court can pick its expert, thus giving status to this profession of psychology.

Therefore, it is the impression of this writer that with such a growing profession as school psychology there should be a concern for refined training programs and a need for definite certification because of the professional responsibilities that are involved both ethically and legally.

Possible Hypotheses

This study could be predicated on several hypotheses:

1. School psychologists and psychometrists have little uniform approach toward their responsibilities and duties, *i.e.* mechanical organization of activities, desigfination of services, relationships with other professional individuals within the educational system.

2. Administration has no criteria for employability and utilization of psychologists to their maximum efficiency.

3. School psychologists and psychometrists do not have an adequate level of training to meet the diversification of duties required by many administrations.

4. The school psychologist has no guide to assist in the execution of his professional duties.

5. The degree of responsibility involved in a school psychologist position is not qualified by him or his administrator. Because of these particular expressed problems or hypotheses certain objectives must be ascertained in order to fulfill the requirements of such a study: (a) What does a school psychologist and/or psychologist do in terms of his duties as clinician? teacher? specialist in general? case worker? researcher? (b) What is the individual certification, his previous training, experience, the level of training up and beyond said certification? (c) What is the individual's rationale of professional practice? (d) What guide lines do administration and the school psychologist and/or psychometrist provide to execute his professional duties and responsibilities? The Thayer Conference (2:41-42) reflects uncertainty on the part of administrators.

Probable Implications

1. Consideration for the revision of the training programs in colleges and universities.

2. Probable revision of legislative requirements for the particular profession.

3. A probable criteria for employability and assignments by administration.

4. A probability of developing a handbook for school psychologists and psychometrists that will put down guide lines for the professional practices. This is particularly relevant to their approach to their duties and limitations and/or extensions of what their jobs should be. However, such a handbook should be based on quantitive data. Such a book could also provide a guide line for administration as well as other professional colleagues. Such a handbook would not be rigid, but rather to improve methods and practices and relationships in order to increase the proficiency of the professional person. This is in no way to be construed that an individual should not be allowed to express his individual initiative and ingenuity, but rather to demonstrate professional standards of conduct.

This psychologist would like to offer as a partial guide line the record he kept of his duties for a period of two years at a rural county level. It represents a daily log kept for a period of months. This particular log is at variance in some ways with the San Mateo report(2:33-34). It suggests that consideration should be given to the variance of roles in comparing rural with urban district psychologists (See Table I).

TABLE I
Log of a Rural School Psychologist, 1951-52 and 1953-54

	Time Devoted to Each Activity					
	1951-52		*1953-54*		*Per Cent*	
	Hours	*Per Cent*	*Hours*	*Per Cent*	*Change*	*Comments*
1. Case Studies (Testing, interviewing, scoring) (School, district, and special education class)	248	30.0	348	32.0	+ 2.0	Addition of a Psychometrist to staff permitted more time with cases in field.
2. Supervisorial Duties	133	16.0	267	24.5	+ 8.5	See #1 above.
3. Dictation (Disposition of #1)	29	3.5	83	7.0	+ 3.5	Improved method of reporting despite heavier case load.
4. Inservice training with teachers	62	7.0	29	2.5	— 4.5	See #1. Some functions delegated.
5. Individual teacher conferences	26	3.0	34	3.0	0.0	
6. General Staff meetings (Curric.)	64	7.5	41	4.0	— 3.5	Superintendent's policy.
7. Individual staff conferences	114	14.0	41	4.0	—10.0	Change in reporting procedure, *i.e.*, written reports more comprehensive.
8. Public Relations (PTA, service clubs, professional talks, etc.)	25	3.0	41	4.0	+ 1.0	Growing community interest.
9. Research (Normative data)	11	1.0	6	0.5	— 0.5	Lack of time; work delegated.
10. Group Testing	41	5.0	30	2.5	— 2.5	See #1.
11. Inter-agency conferences (Social Service, Probation, Mental Hygiene Clinics, Public Health)	16	2.0	53	5.0	+ 3.0	Case load increase and where several agencies know case.
12. Institutes and Conferences	60	7.0	94	10.0	+ 3.0	Superintendent's policy.
13. Curriculum Material and Films (reviews) with staff	7	1.0	9	1.0	+ 3.0	
Totals	835	100.0	1,076	100.0	+28.7	

Note: Travel time of 15 hours per month was not included in the table.
a—1951-52 Psychologist and secretary were only staff members.
b—1953-54—Psychologist, 2 psychometrists, secretary, and part-time clerical help constituted staff.

TABLE II
Log of Working Hours—October 1, 1956 to January 10, 1957

Activity	*Time Spent* Hours	*Per Cent*
Individual psychological examinations (This generally constitutes a complete case study of the child).	46.0	8
Consultations:		
(a) Individual (These are generally consultations with parent and/or school persons).	46.0	8
(b) Group Consultations, Guidance Committee (This refers to the technique of utilizing other specialists on the county staff and/or other professional personnel within the school system in working out the disposition of a case).	101.0	16
Reports (This means the scoring, analysis and dictation of reports that were done for Items 1 and 2).	40.0	7
Group Tests (This refers to either administering group tests for purposes of some pilot studies or training a teacher or administrator on how these tests can be used, and frequently this is done by means of a demonstration when they are first introduced into a school or district).	40.0	7
Correspondence (This refers to office correspondence).	31.5	5
Conference with Agencies (Agencies such as Public Health Dept., Probation Dept., Welfare Dept. frequently use this psychologist for consultation on individual cases that are known to any one or all of them. Part of the services rendered to the Probation Dept would fall under Item 1).	15.0	3
Conferences with County Staff. (These refer to staff meetings or individual consultations on various problems where staff members must consult.)	21.5	4
Professional conferences (either educator or psychologist meetings elsewhere in the state).	17.0	3
Making use of state consultants from the State Dept. of Education or, occasionally, consultants from a University or a publishing company.	19.0	3
Research, statistical computation	46	8
In-Service education with other staff members. (This is normally a joint effort with a general supervisor or secondary coordinator or Child Welfare and Attendance Officer).	31.5	5
Travel	159.5	26
Total	600.0	100

The writer later moved to another county where the situation was somewhat changed (See Table II). One may consider, then, that there are differences in administrative philosophy as well as the geography and population with which one must deal.

BIBLIOGRAPHY

1. Bower, Eli Michael. *The School Psychologist,* Bulletin of the California State Department of Education, Vol. XXIV, No. 12, November, 1955. Pp. 103.
2. Cutts, Norma (Ed.). *School Psychologists at Mid-Century.* A Report of the Thayer Conference, American Psychological Association, Washington, D. C., 1955. Pp. 230.
3. Levine, Louis S. "School Psychologist Training Programs in California", *California Journal of Educational Research,* Vol VI, No. 3, May, 1955. Pp. 123-126.
4. McCary, J. L. "The Psychologist as an Expert Witness in Court", *The American Psychologist,* Vol. XI, No. 1, January, 1956. Pp. 8-13.
5. Newland, T. Ernest. "Formalized Psychological Services in State Education Programs", *The American Psychologist,* Vol. XI, No. 3, March, 1956. Pp. 136-140.
6. *Newsletter*—Division of School Psychologists, Division 16, American Psychological Association, Vol. X, No. 3, Spring 1955-56. P. 5.
7. Schofield, William. "Psychology, Law, and the Expert Witness", *The American Psychologist,* Vol. XI, No. 1, January, 1956. Pp. 1-7.

The Ford Foundation has made a $25 million appropriation for a large-scale extension and development of the National Woodrow Wilson Fellowship Program. The Foundation's action is intended to support a broad program to attract able college students into the academic profession and will provide graduate fellowships to potential college teachers at the rate of 1,000 a year for the next five years.

Individual awards, which will be applied to tuition and living expenses for the first year of graduate study, are expected to average $2,200 and will require approximately $11 million of the total appropriation. Another $10 million will go to universities for aid to graduate students beyond the first year. A nationwide recruiting program will absorb about $2.8 million, and administrative expenses over the five-year period are expected to be $1 million.

Nominees for Woodrow Wilson Fellowships will be made by local faculty members, and selection will be made by regional committees and a national committee made up of active university and college faculty members. Fellowship recipients may, in general, attend the institutions of their choice and will be free to select their own fields of study. Awards formerly were made only in the humanities and social sciences. The new program includes the natural sciences and mathematics as well. A list of honorable mentions will be available to all interested graduate schools, and it is expected that the program will supply quality candidates considerably beyond the number of Woodrow Wilson Fellows selected.

California Educational Research Association Spring Conference

The thirty-fifth annual conference of the California Educational Research Association was held at the Miramar Hotel in Santa Barbara on Friday and Saturday, March 15 and 16, 1957. This was the first conference to be held in the southern part of the State and represented the first milestone in the conversion of the organization into a truly State-wide association.

Hazel M. Lewis, Second Vice President of the Association, presided over the first general session on Friday evening. Following a welcome by Hal D. Caywood, Santa Barbara County Superintendent of Schools, the main address was presented by James C. Stone, Associate Professor of Education and Director of Teacher Education at the University of California at Berkeley. His talk on "The New Look in Teacher Education—A Report of the University of California's Experimental Teacher Education Program," is presented on pages 104 to 110 of this issue of the *Journal.*

Jack A. Holmes, First Vice President of the Association, presided at the second general session on Saturday morning. Norman B. Scharer, Superintendent of Santa Barbara City Schools, extended greetings. Clarke Cosgrove, Supervisor, Measurement and Evaluation, Los Angeles City Schools, spoke on "School Holding Power for Pupils of High Achievement." William M. Shanner, Director of Professional Services for California Test Bureau, then talked on "Practical and Theoretical Problems in Articulating Test Scores."

Edward A. Taylor, President of the Association, presided at the luncheon meeting on Saturday. The speaker was John W. Luke, Regional Manager for Applied Science of the International Business Machines Corporation. Mr. Luke talked about the latest developments in computers, sorters, and other aids to the gathering and collating of data.

The annual election of officers was also held at the luncheon meeting, with the following being chosen for the 1957-1958 school year: President, Jack A. Holmes, University of California, Berkeley; First Vice President, Hazel M. Lewis, Stockton Unified School District; Second Vice President, Glenn W. Durflinger, University of California, Santa Barbara College; and Secretary-Treasurer, Floyd I. Marchus, Contra Costa County Schools.

There were nine section meetings at which papers were presented. Digests of these papers, together with condensed reports of the two talks given at the general session on Tuesday morning, are given below and on the following pages. The digests are grouped under the titles of the sections in which the papers were given. However, the papers have been arranged in alphabetical order according to the names of the authors rather than in the order of presentation within the sections.

GENERAL SESSION ADDRESSES

Power of Senior High Schools to Retain High Achievers. J. Clarke Cosgrove, Los Angeles City School Districts.

A study of the holding power of the high schools was made of those A-10 students in the Los Angeles City senior high schools who in 1954 placed in the 95th percentile or above on the *Iowa Tests of Educational Development*. Of the total A-10 population of 13,754, 9.6 per cent were in this group.

3.6 per cent of the 1319 students in this category left school before graduation for the following reasons: 10 entered the armed forces (3 Air Force, 2 Army, 5 Navy), 0.7 per cent; 14 dropped school for work, 1.1 per cent; 14 left school for various reasons (6 marrigae, 2 home conditions, 5 overage, 1 non-attendance), 1.1 per cent; 10 unkown, 0.7 per cent.

1.4 per cent of the high achievers were accelerated to graduate a semester ahead of their class and 0.8 per cent had transferred to private schools prior to graduation.

Practical and Theoretical Problems in Articulating Scores of Tests. William M. Shanner, California Test Bureau, Los Angeles.

Tests are considered to be articulated if an individual will receive roughly the same standardized test score when he takes successive levels of a test battery. The peculiarities of the articulation problem are pointed out. It also was pointed out that the articulation problem and equating parallel forms of tests at the same level are not the same problem. Statistical procedures appropriate for equating parallel forms are not appropriate when applied to the articulation problem. The Single Score Sampling Method has been suggested as a procedure in articulating tests. Data were introduced to indicate that the 1957 Edition of the California *Test of Mental Maturity* has been articulated so that subsequent retesting with two consecutive levels yield stability and continuity of measurement that compares favorably with results obtained from readministering the same test or an equivalent form of the test at the same level.

I. STUDIES IN READING

The Relationship of Cultural-Linguistic Differences and Vocabulary Development and Achievement. Frank Farner, Claremont Graduate School.

This study compared the auditory and visual vocabularies, achievement and report card marks of Caucasian and Nisei children attending grades 4-6 of a U.S.

military dependents school in Tokyo. The varying amounts of Japanese cultural-linguistic influences upon the Nisei children were considered.

Greater Japanese cultural-linguistic influence was accompanied by smaller vocabularies. Auditory vocabulary was more retarded than visual. Vocabulary was closely related to achievement in verbal subjects, but not signficantly to less verbal sub ects such as arithmetic and spelling. Caucasian vocabularies were far above published norms, reflecting the vocabulary-building qualities of transient military life. Most Nisei vocabularies were equally far below norms, accentuating comparison with their Caucasian contemporaries. Correlation of vocabulary and achievement of all groups was high with visual vocabulary surpassing auditory as a predicator of achievement. Nisei children showed greater strength in Paragraph Meaning achievement than Word Meaning indicating dependence upon context for understanding.

Functional Efficiency of the Eyes and Its Relation to Fixation Pauses in Reading. Luther C. Gilbert, University of California, Berkeley.

The speed of processing the visual primary images is an important factor in the length of the fixation pause in reading. Speed of perception following saccadic movements is slower than speed of perception before movements. For most subjects it requires from four twenty-fourths to six twenty-fourths of a second, free from interfering stimuli after the words are flashed on the screen, in order to reach the maximum span of perception.

Under certain conditions the speed with which the eyes function seems to be faster than the speed of mental processing. The speed of processing the visual stimuli is positively associated with the functional efficiency of the eyes. There seem to be marked individual differences in the speed of action in both the eyes and the cortex. These differences are positively associated with the length of the fixation pauses used in reading materials of the character employed in this experiment

A Study of the Relationship Between the Loss of High Frequency Hearing and Phonetic Learning. Arlington L. Goar, Baldwin Park School District.

The problem in this study was to ascertain the relationship between the loss of high frequency hearing and measures of phoentic learning of children in the third and fourth grades. Two groups of thirty-four children were selected. These groups consisted of matched pairs in intelligence, age, grade, sex, and vision. Group "A" consisted of thirty-four students with normal hearing, and Group "B" of thirty-four students with hearing losses in both ears of twenty decibels or more in the frequencies above 3000 cycles per second, as tested by the Maico Audiometer, model F-1. Each child was given two phonetic tests, one a sound recognition test, and the other a sound production test. The scores obtaind by the two groups of children were compared to determine significance of difference.

The results indicate that there may be a relationship between the two variables, as the means of both tests were found to be significantly different at the 5% and 1% levels of confidence. The t-ratios for tests No. 1 and No. 2 were found to be 7.42 and 12.88 respectively. Because of these results we reject the null hypothesis, and assume that there may be a relationship between the loss of high frequency hearing and phonetic learning.

Improving Reading Programs in Butte County High Schools. Loaz W. Johnson, Butte County Schools.

A packaged reading program with Science Research Associates materials as a core, convenient to handle, and suitable for average teacher use was tried in Butte County high schools.

Test results showed an average gain in 12 freshmen classes of 56.2 words per minute and 8.9 per cent in comprehension, in 4 sophomore classes 87 words per

minute and 9 per cent in comprehension, in 4 junior classes 39.4 words per minute and 7.4 per cent in comprehension. While 3 freshmen classes not using the program showed a gain of 4.3 words per minute and .8 per cent in comprehension, and 2 sophomore classes –8.0 words per minute and –4.0 per cent in comprehension.

Results indicate: (1) Unless special attention is given to reading on high school level, students will make little progress and may retrogress in reading skills. (2) Regular classroom teachers can succeed with a well organized reading program.

Comparisons Between Eighth Grade Students and a Select Group of Adult Males on a Standardized Reading Test. Leil L. Young, San Mateo City School District.

91 students and 61 members of a luncheon club took the Schrammel-Gray High School and College Reading Test. Eighth grade norms were used for the students and twelfth grade for the men.

In reading comprehension, the median of the eighth grade students was at the 65th percentile. The men attained only the 50th percentile. Median accuracy of reading was at the 80th percentile for the students and for the men at the 73rd percentile. In rate of reading, the eighth graders reached the 56th percentile. The members of the luncheon club got only as far as the 41st percentile.

The findings indicate that relative to their respective levels of expectations, these students read better than adult males of superior status in the community.

II STATISTICS AND MEASUREMENT

Analysis of Financial Need and Scholarship Policy. John Caffrey, Educational Testing Service, Los Angeles.

Two influences have expanded the resources available for scholarship aid to students: increased endowments, and the granting of stipends according to need as the latter is determined by relatively precise methods. The College Scholarship Service of the College Entrance Examinations Board now provides a confidential statement to be filled out by parents. Copies of this are sent to colleges designated by the student. An elaborate computational method has been devised by the College Board and Educational Testing Service for the estimation of the contribution which parents could reasonably be expected to make in support of a child's college expenses. The difference between this "levy" and the cost of attendance determines the stipend to be awarded, assuming the student deserves an award. Experience to date indicates that available scholarship funds can be stretched to support a greater number of students when such precise stipends are awarded.

Age Study of Timed Tests for Credential Candidates at Sacramento State College. Lucille B. Colby, Sacramento State College.

Age and test performance of 600 candidates, age 18-64, mean 30.14, were significantly curvilinear, .001 level, on the ACE: Q and L and CEE Vocabulary. Vocabulary increased with age, Q and L decreased. 193 candidates, age 20-54, mean 34.25, were studied on the above tests, alternate untimed Vocabulary and ACE Arithmetic subtests, and a Marking Test of IBM answer sheets when directions emphasized speed and precision. Linear coefficients were significant. The Marking Test declined with age but was unrelated to other test performance. Vocabulary tests were equivalent and increased with age, but L and Q scores declined. Age and timed and untimed Arithmetic coefficients were zero, and an

r of –.41 between age and Q reflects decrements in Number Series Completion and Figure Analogies. Applying norms homogeneous for class standing but uncorrected for age differences challenges the effectiveness of proportionately far more older than younger adults.

An Analysis of Some Characteristics of Voters in the Covina School Bond Election of 1956. James A. Collins, Griswold Elementary School, Covina.

Through an analysis of the Covina School District Bond Election, in terms of the characteristics of voters and non-voters, it was found that groups with the following characteristics tended to vote in greater proportions than others: among parents (9,495)—mothers, PTA members, parents of two or more children, and parents of children in the lower grades; among all registered citizens (13,460)—parents (of children in the public elementary schools) and women. Total population studied—19,039.

By using the chi square technique to test null hypotheses, it was possible to identify and reject data on voting behavior which could have occurred by chance more than one in a hundred times (the one per cent level of significance).

Conditions Affecting the Fakability of the Minnesota Teacher Attitude Inventory. M. Stephen Sheldon* and A. Garth Sorenson, University of California, Los Angeles.

At least five studies have been published concerning the fakability of the MTAI. Each investigation was made under a different set of faking conditions and different results were reported. It was the purpose of the present study to incorporate the relevant experimental conditions into one factorial design and to test these variables for their effect on the fakability of the inventory.

The sample used consisted of 156 education students at UCLA. These were randomly assigned to 12 different groups. All of the subjects took the inventory twice; once under standard conditions and once having been asked to fake. Four groups faked "traditional," four faked "progressive," and four were asked to fake without a direction being specified. Two of each of the sets of four groups first faked, then took the inventory under standard conditions while the other two first responded under standard conditions, then faked. One group from each of the pairs was asked not to sign their names and the other group of the pair was instructed to sign. Three 3-way analyses of variance were performed on the results; one on the scores earned under standard conditions, one on the scores earned under faking directions, and one on the change scores.

The Determination of Structural Pattern in a Population of Comparable Governmental or Demographic Units. Frank A. Yett, Pasadena City College.

This study develops a general method for establishing the likenesses and differences among comparable governmental or demographic units. It includes: (1) Design of a massive sample of variables expressed as ratios or fractions. (2) Quantification of the concept, structural pattern, through design of linear functions of variance expressing the relative contribution of each variable to the major modes of variation.

The functions of variation are refined statistically until the quantitative distributions given the population by the functions show substantially no correlation. The orthogonal functions so derived are termed, *principal dimensions.* The family of principal dimensions is called a *structural pattern* of the population.

The structural pattern is the basis for both qualitative and quantitative description of the population. It easily identifies members with similar characteristics and "isolates." The pattern scores account mathematically for the likenesses and differences which exist.

* Presented the paper.

III. PREDICTION STUDIES

Variance of the Three Reading Components as Predictors for Freshman Success in College. L. C. Breen, University of California, Santa Barbara College, Goleta.

A study of the variance of reading test scores (vocabulary, speed and level of comprehension) of the Cooperative English Form C2, Higher Level, for 1824 entering Freshmen at the University of Washington in 1950-1951 indicated that as a single group of predictors in a battery of eleven, speed and level of comprehension were more important than vocabulary for high school average and all-university grades. The eight independent variables were: averages in high school electives, English, foreign language, mathematics, natural science, and social science, and the American Council of Education Phychological Examination test scores for the Quantitative and Linguistic sections.

The beta correlation products for vocabulary, speed and level of comprehension for high school average were: 0.0224, 0.0765, and 0.0252; and for all-university average were: 0.0039, 0.0640, and 0.0848. The variance for each high school subject area was analyzed and comparisons were made to similar university subject areas.

The Mechanics of Study Procedure. Harold D. Carter, University of California, Berkeley.

Recent research has indicated that school achievement is more easily predicted through measures of attitude and adjustment than through use of reported procedures used in studying. In the present research, an attempt is made to improve the prediction by a more thorough investigation of mechanics of study.

An inventory of 150 items, devoted entirely to mechanics of study procedure, has been devised, and applied to two groups of high-school students. Using one group of over 800 students, a scoring key was constructed for predicting school achievement. The key was then applied to a second group of about 800 students, for cross-validation.

The results show that reported study procedures yield substantial prediction of grade-point averages. This finding, in disagreement with previous studies, requires reinterpretation of earlier findings, and appears to have important implications for instruction, counseling, and guidance.

The Identification of Certain Non-Intellectual Factors Associated with Intermediate Achievement. Lyle D. Edmison,* San Jose State College, and Diane P. Parker, Freedom Union Elementary School.

Fourth, fifth and sixth grade subjects from two elementary schools were administered the California Test of Mental Maturity, the California Achievement Test and a seventy item inventory of non-intellectual factors constructed by the authors.

The key for the inventory was developed from the responses of subjects of one school with subjects from the other school serving as a cross-validation group. The key was constructed in the direction of over-achievement by identifying the responses of subjects making a grade average greater than would be predicted for them on the basis of their TMF score from the CTMM, Language score and Reading score from the CAT.

As an instrument, the inventory did not contribute significantly to the prediction of achievement, but a few of the items appeared to be discriminatory.

* Presented the paper.

The Prediction of Academic Success in an Osteopathic School. Peter G. Loret, Richard B. West,* William Lu, University of California Medical School.

Pearson product-moment r's were computed for sixteen variables to estimate their effectiveness in predicting osteopathic school success. The sample consisted of 57 students for whom complete data were available for all four years of their training. A concomitant consideration was the desirability of obtaining r's between the "Examination for Students of Medicine in the Subject Matter of Cancer" and measures of scholastic achievement.

The correlation of premedical science grade point average with the criterion of overall osteopathic school GPA yielded the highest coefficient available for prediction before admission to osteopathic school ($r = +.53$). The most effective predictor of overall osteopathic GPA was Freshman osteopathic GPA ($r = +.92$). Low negative r's were found between Medical College Admission Test scores and overall osteopathic GPA. Above the freshman level, Cancer Test scores were significantly correlated with overall osteopathic school GPA.

An Analysis of the Mental Ability Data in the Semans, Holy, Dunigan Report of June 1955 California High School Graduates. Walter T. Plant, San Jose State College.

In the Semans *et al* study it is indicated that of those able to meet California state college entrance requirements, 11.0 per cent had I.Q.'s above 120, 12.7 per cent had I.Q.'s from 115-120, 16.4 per cent had I.Q.'s from 110-114, 34.2 per cent had I.Q.'s from 100-109, 19.0 per cent had I.Q.'s from 90-99 and 6.7 per cent had I.Q.'s below 90.

An analysis of Wechsler-Bellevue data for 732 San Jose State College freshmen indicates that 36.6 per cent had full-scale I.Q.'s above 120, 24.8 per cent had I.Q.'s from 115-120, 16.7 per cent had I.Q.'s of 110-114, 17.2 per cent had I.Q.'s of 100-109, 4.5 per cent had I.Q.'s of 90-99 and .2 per cent had I.Q.'s below 90.

The extreme difference between scores for the potential pool of state college students and matriculated students were suggested to be a function of (a) selective factors or (b) limitations of the Semans *et al.* data.

IV. STUDIES OF TEACHERS AND TEACHING

Changing Concepts of Education in the Netherlands. William F. Holtrop, University of California, Santa Barbara College.

Three centuries ago the educational system in the Netherlands showed some interesting similarities to that in the United States. But over the years, the public school system in Holland has gradually declined to be supplanted by private schools until the ratio is now two private schools to every public school.

From a purely academic curriculum the program is gradually absorbing the progressive methods found in the United States. The three "R's" are being supplanted by a well-balanced program of physical education and extra curricular activities. In a country where agriculture is rapidly making room for industry, vocational education is becoming increasingly important. This area enrolls more students than any other part of the educational structure, although the enrollment in other branches of education is also high. Educational leaders in the Netherlands make changes cautiously, but once in effect, these innovations improve the intellectual, cultural and moral outlook for Dutch boys and girls.

* Presented the paper.

Teaching Opportunities for Eighth Grade Children. Melville J. Homfeld, Menlo Park City School District.

Twenty-five academically successful eighth graders in the Menlo Park City School District, evincing interest in teaching as a career, were given an opportunity to participate in a week-long teaching and observing program consisting of discussions with professional educational leaders, excursions to teacher education institutions and laboratories, classroom observation, actual teaching experience with selected elementary school teachers, and oral and written evaluations of the program.

The children agreed to participate in a follow-up study of their educational and vocational interests and preparation during the eight years of their high school and college life. There was unamimous agreement that the experience had been stimulating and informative. Twenty of the children reported an increased interest in teaching as a career. A similar student-teaching program is being planned for the current year.

Are Education Courses Necessary? Hazel M. Lambert, Fresno State College, Presented by Mildred Edgar, Fresno State College.

This survey was done to ascertain something concerning the "feelings" of education majors toward the professional courses required for graduation and/or a teaching credential. No attempt was made to weight any of the items or arrive at a "score." Rather, this is a descriptive report showing the general attitudes of students toward these courses. They were asked to either "disagree" or "agree" with the items, and all figures are in terms of percentages of students in the various categories who agree. An examination of this material reveals that students in this survey feel that there is too much emphasis on education courses, the greatest dissatisfaction being expressed by "A" students and men in the teachers-in-service group. However, regularly enrolled students feel more than teachers-in-service that they have been made to include too many education courses in their programs.

Enjoyment of education courses seems to increase with years of experience. And they seem to be enjoyed more by women than by men in the in-service group and a great deal more by "C" students than those whose grade average is "A" in this group. Students in secondary education appear on the whole to enjoy education courses less than those in elementary. No "A" student in the "no experience" group feels that education courses are "snap" courses, although there is some feeling among "B" and "C" students and all teachers-in-service that they are. There is strong agreement in all groups that education courses are needlessly repetitious. There seems to be general agreement that education courses give information vital to successful teaching but teachers-in-service with only one year of experience are in more agreement regarding this item than teachers in the 11-29 years of experience group.

The number of students included in this survey is too small perhaps to warrant any significant conclusions.

Attitudes Developed by Students Toward Course and Teacher Under Rigid and Flexible Teaching Methods. Maurice Richards, University of California, Santa Barbara College.

The entire enrollment in a college course of engineering drawing was divided into two groups of three sections each. One group was the "C" or control group and the other was the "T" or time group. The "T" group was subjecetd to the experimental factor "Emphasis and premiums" on time. The groups were measured and equated for intelligence, mechanical skill, spatial relations, age, drawing experience and other pertinent factors. Although no implication is made that the instruction in all six sections was equal, every effort was made to control these factors and differences that did occur were minimal and assumed to cancel each other.

Twenty questions were asked of the students pertaining to the course and the instruction and their responses were made on a five-point continuum ranging from high to low in the trait being queried. In every case the "T" group responded more favorably and manifested a better attitude toward course and teacher.

Some Characteristics Distinguishing Between Groups of Teachers Receiving Uniformly High and Low Assessments of the Teacher Characteristics Study Patterns of Teacher Classroom Behavior. David G. Ryans, University of California, Los Angeles.

Criterion groups were constituted by selecting teachers who were one standard deviation or more above the means of all three TCS patterns of teacher classroom behavior (kindly, understanding behavior; systematic, businesslike behavior; stimulating, surgent behavior) to comprise a High group, and teachers who were one standard deviation or more below the means of all three patterns to make up a Low group. This was accomplished separately for elementary, secondary, and combined elementary-secondary teachers. The present report considers only the "combined" group.

Responses to the Teacher Characteristics Schedule (an inventory based upon a number of originally separate instruments, and consisting of multiple-choice and check-list type items) were analyzed statistically to determine those which distinguished between the groups of generally "highly assessed" and "lowly assessed" teachers (at the .05 level of confidence).

Content analysis of the discriminating responses suggests that teachers comprising the High group, as compared with those of the Low group, more frequently (a) were extremely generous in their appraisals of the behavior and motives of other persons, (b) possessed strong literary and broad cultural interests, (c) thought of themselves as being ambitious and possessing initiative, (d) tended to be idealistic, (e) participated in social groups, (f) expressed favorable attitudes toward pupils, and also toward democratic classroom procedures, (g) attained scores on the TCS scale I-co suggesting above-average verbal comprehension, and (h) attained scores on the TCS scale S-co suggesting above-average personal and emotional adjustment. Conversly, there was indication that teachers of the Low group, as compared with teachers in the High group, more frequently (a) were restricted and critical in their appraisals of the behavior and motives of other persons, (b) were inclined to value exactness and orderliness and to think of themselves as being "practical", (c) were from the older age groups, (d) expressed unfavorable opinions of pupils, and also of democratic classroom procedures, (e) attained scores on the TCS scale I-co suggesting below-average verbal comprehension, and (f) attained scores on the TCS scale S-co suggesting below-average personal or emotional adjustment.

V. STUDIES OF EMOTION AND OF MENTAL DISTURBANCE

Emotional Disturbance and Level of Intelligence as Factors Affecting the Validity of the Goodenough Intelligence Test. Harry Aron, Sacramento State College.

It was hypothesized that the validity of measurement of psychological tests of the draw-a-man type is a function of emotional disturbance and level of intelligence. One hundred and twelve children referred to a child guidance clinic because of behavior problems and 112 children from three public elementary schools matched with the experimental group for intelligence, age, sex, and general occupational level of parents made up the subjects of this experiment.

On the basis of the findings it was asserted that a mean Goodenough IQ lower than a mean IQ of another measure of intelligence may not always be interpreted as being a function of emotional disturbance, as the mean Goodenough IQ is variously affected by level of intelligence and emotional disturbance.

A Case of Mental Slowness Caused by Neurofibromatosis. Zephaniah H. Ballmer,* Kern County Schools, and George Ablin, M.D., Bakersfield.

A white male, C.A. 9-7, was investigated to determine what forces seemed to be hindering school progress. Psychological tests disclosed a huge difference between verbal and performance abilities, academic retardation and personality traits that could account for the observed behavior, but only in part. Subsequent data as revealed by the family history and neurological examination indicated a genetic disease history of neurofibromatosis which is present in the boy, and a definite cortical dificit attributable to this disease. Efforts at rehabilitation utilizing a kinesthetic approach in part have been very satisfactory and are continuing.

The Effects of Amphetamine Therapy on Children with a Cortex Injury Versus Those with a Mid-Brain Injury. Harold F. Burks, San Gabriel School District.

Forty-three behavior problem children with the so-called "hyperkinetic syndrome of behavior" were rated on their behavior by their teachers before and after amphetamine medication. Thirty-three of the group had demonstrated abnormal electroencephalographic tracings and ten had shown normal tracings. Evidence from previous work was given to suggest that the former group suffered cortical difficulties along with possible sub-cortical pathology while the latter group experienced most of its problems at the diencephalic level. The method employed to evaluate changes in behavior was a behavior rating scale containing items purporting to measure symptoms thought to result from brain injury.

The results show (1) that behavior problem children with normal EEG's improved more dramatically than those with abnormal EEG's even though they wer originally rated in much the same way, (2) the normal EEG group responded best in that type of behavior described under the "vegetative-autonomic" classification, and (3) the abnormal EEG group also responded well in this classification but showed significant changes in other items thought to measure behavior controlled more by cortical processes. An attempt was made to explain these results according to theories about the neural mechanism involved in the hyperkinetic syndrome.

Special Part-Time Classes for Emotionally Disturbed Children in a Regular Elementary School. John W. Howe, Los Angeles County Schools.

Experiment tested the hypothesis: Slavson's clinical methods *can* be adapted for school use with emotionally disturbed pupils. In grades five and six, Willowbrook School District, Los Angeles County, three special classes carefully labeled "Activity Clubs" held weekly two-hour sessions for approximately two school years. Each class had six or seven boys (no girls); "hyperactives" were carefully "counterbalanced" by "withdrawns." The three teachers, all seasoned counselors, kept anecdotal records of each session, maintained roles of quiet acceptance, and purposely avoided deep rapport and verbal-conscious-insight methods. Boys had full freedom inside a bare room containing only work-benches, tools, handcraft materials, and games. Favorable behavior changes, presumably caused by interactions and identifications within the class, were noted in most cases, more definitely in withdrawns. Criteria were anecdotal records; judgments of regular teachers; and of staff. The hypothesis was confirmed. Replications are advised at secondary levels, and with additional criteria.

* Presented the paper.

An Experimental Study of the Emotional Responses of Boys to Little League and Middle League Competitive Baseball. Vera Skubic, University of California, Santa Barbara College, Goleta.

This study was designed to explore some of the effects of athletic competition in physical education classes and in Little League type organizations on the emotional responses of boys between the ages of 9 and 15. Two hundred and six boys were subjects: 75 were members of Little League baseball teams, 51 were members of Middle League teams, and 80 were non-players. Data was gathered by a volt-ohm-millimeter instrument to measure the galvanic skin responses and by questionaire.

Within the limits of this study, it was found: 1. Boys between the ages of 9 and 15 exhibit a higher level of emotionality than adults and less emotionality than infants. 2. There is a general pattern of emotional response to competitive activities. Boys are excited immediately before a game, most excited immediately after the game is completed, and then progress to a more relaxed state. 3. Thirteen-year-old boys are more relaxed in all testing situations than boys of any other age. 4. At all ages league players are less excitable on all tests than boys who are not members of teams. 5. No appreciable differences were found in the emotional responses of boys to competition in physical education softball games, league baseball games, and All-Star championship games. 6. Highly organized leagues appear to consume a disproportionate amount of the leisure time of boys who play on teams. 7. The average number of injuries per league player is high as compared with injuries in physical education classes. 8. Boys chosen on teams are physically and emotionally more mature than other boys.

VI. STUDIES IN PERSONALITY

A study of Certain Relationships Between Critical Thinking Ability and the Ability to Estimate Personality Characteristics. Donald F. Harder, University of California, Davis.

The purpose of the study was: (1) to investigate relationships between ability to estimate personality characteristics and ability to think critically. (2) To see if there are personality differences between highly critical thinkers and less critical thinkers.

Seventy male and female advanced education students enrolled in an introductory counseling course had taken the Watson-Glaser Critical Thinking Appraisal (CTA) and the Guilford-Zimmerman Temperament Survey (GZTS). Without knowing his scores each subject estimated his score placement on the ten scales of the GZTS according to descriptions given. Differences between actual and estimated scores were summed, and the sum designated as DEV. Pearsonian r's were computed between CTA total and DEV; between CTA and score on Objectivity ("O") scale of the GZTS; and between DEV and "O". Twenty subjects with CTA scores of 80 or above were compared to twenty subjects with CTA scores of 70 or below on each of the GZT scales.

Significant negative coefficients were found between DEV and "O", a relationship in the expected direction. CTA scores were not significantly related to either DEV or "O". The high and low CTA groups did not differ significantly with respect to means or variances except on the R scale, the high group being more restrained.

Spelling Disability and Asyntaxia in a Case Involving Injury to the Language Formulation Area of the Brain. Jack A. Holmes* and W. Hyman, M.D., University of California, Berkeley.

Mr. R. J., a 35-year-old, right-handed white, truck driver was hit with a bottle on the left side of the head. Originally, examinations indicated an intracerebral

* Presented the paper.

hemorrhage, which, over seven months, had absorbed, with resulting cerebral atrophy and marked impairment of his language formulation area.

The neuro-clinical and psycho-educational examination appear to present indisputable proof that the ability to write the correct spelling of words from *recall* required the use of the language formulation center (presumably area 37), while a proof-reader's ability to detect incorrectly spelled words from *visual-recognition* does not.

When the empirical evidence of this study is related to earlier statistical studies in this area it appears that a neuro-anatomical basis for the Substrata Factor Theory has been established in the field of spelling.

Rate of Physical Maturing Among Boys as Related to Some Aspects of Personality Development. Mary Cover Jones* and Paul Mussen, University of California, Berkeley.

Reports from the Adolescent Growth Study demonstrate that being early- or late-maturing has a bearing upon the social life and personal adjustment of some individuals during adolescence. A follow-up study indicated that the handicaps and advantages associated with maturity level may carry over into adulthood.

The present study investigated the relationship between rate of physical maturation and some aspects of self-conceptions, underlying motivations and basic interpersonl attitudes. The TAT protocols of 16 boys who had been consistently physically accelerated throughout adolescence and 17 who had been consistently retarded were analyzed.

The physically retarded adolescents had more negative self-conceptions, feelings of inadequacy, strong feelings of being rejected and dominated, prolonged dependency needs and rebellious attitudes toward parents. In contrast, the early-maturing boys present a more favorable psychological picture. However, in any particular case the effects of early- or late-maturing may be significantly modified by the individual's psychological history and present circumstances.

Congruency of Personality Profiles in Adolescent Boys. Fred T. Tyler, University of California, Berkeley.

The problem of this study was: Does the congruency of personality profiles within the individual adolescent boy vary with the intervals between the measurements of the personality variables and with the ages at which the measures were obtained?

The subjects were thirty boys in the California Adolescent Growth Study who completed self-report inventories annually in grades six through twelve. The self-report inventory provided information regarding eight areas of adjustment, namely, sociality, personal inferiority, overstatement, family, physical symptoms, fears, general tension, and school.

Spearman's rank-order correlations, indices of pattern congruency, were computed for each individual over three intervals of time, between grades six and seven, eleven and twelve, and six and twelve. The medians for each of thirty sets of rhos were .20 between the first and last occasion, .40 between the first and second, and .60 between the last two. The results from this type of analysis are similar to those obtained when consistency coefficients are compared. The subjects with the more congruent profiles between grades six and twelve showed earlier physical growth and also larger growth quotients and less intra-individual variability during the earlier adolescent years.

Achievement, Intelligence, Age and Promotion Characteristics of Students Scoring At or Below the Tenth Percentile on the California Test of Personality. J. A. R. Wilson, University of California, Santa Barbara College.

From 1083 students at the beginning of the third grade in two city school

* Presented the paper.

systems, all who scored at or below the tenth percentile and all who scored at the fiftieth percentile on the California Test of Personality were selected. The cities had achievement scores from 32 to 58 per cent above the national norms. Groups were compared for results on: (1) The California Achievement Tests in reading, arithmetic and spelling, (2) SRA Primary Mental Abilities non-reading IQ scores, (3) Promotion characteristics. Comparisons were made on these bases: (1) standard measures—with parent group, (2) graphically—with each other and national norms, (3) statistically—for the significance of the difference of the means of the selected groups.

It was concluded that: (1) There is no difference reliable at the 5 per cent level in spelling, arithmetic, reading or IQ. (2) Less than half the number anticipated scored at or below the tenth percentile. (3) Over achievement academically seems to be beneficial to personality test scores. (4) Some attention should be paid to the kinds of pressures associated with either acceleration or retardation in these cities.

VII. STATISTICS

The Effectiveness of Sequential Analysis in Test Item Selection. Norman D. Bowers, San Jose State College.

This study was designed to compare sequential analysis with a more traditional method of selecting test items. One hundred forty-six multiple choice test items were sequentially analyzed, varying the levels of discrimination (.01, .05 .10) and the numbers of contrasting criterion cases (3, 4, 5, 10, 15). Next, Davis' technique was applied to the responses of an upper and lower 27 per cent of a large sample ($N = 1042$). Finally, one hundred fifty randomly selected response papers were scored several times, once for each set of discriminating items. The data was analyzed using analysis of variance methods. It was concluded that the different tests (sets of items) developed through sequential analysis item selection procedures evidenced no different properties (reliability, or significance of differences "between individuals" or "between items") from the test constructed by more traditional means.

Lower Bound for the Number of Common Factors. Henry F. Kaiser, University of California, Berkeley.

Given R, a correlation matrix of order n, let $R_0 = R - I$, and $P^2 =$ the diagonal matrix of squared multiple correlations of each variable on the remaining $n - 1$. It is proved that the number of positive latent roots of $R_0 + P^2$ is less than or equal to the rank of the matrix $R_0 + H^2$, where H^2 is a diagonal matrix of communalities. This establishes a lower bound for the number of common factors in R, for all appropriate H^2.

An ABAC for Determining the Significance of Item Discrimination. Peter G. Loret,* Richard B. West, and William Lu, University of California Medical Center.

A frequently used index of test item validity is the degree to which an item discriminates between high-scoring and low-scoring students. The discrimination power of an item is the difference between per cent responding correctly in top and bottom groups of item analysis samples. Having obtained such discrimination data, the problem is to determine whether such a difference is statistically significant.

* Presented the paper.

Fisher's formula for the significance of the difference between uncorrelated proportions has been utilized to prepare tables and abacs which provided a simplified means of determining minimum per cent discrimination required between top and bottom groups (ranging in size from N = 10 to N = 200) for items of varying difficulty levels at the one and five per cent levels of confidence.

The Reliability of Point Biserial Coefficient. William B. Michael, University of Southern California, and Norman C. Perry, Alabama Polytechnic Institute. Presented by John Caffrey, Educational Testing Service.

In response to certain theoretical objections that have been raised by Fred Lord and by Lincoln Moses concerning the interpretation of previously published fiducial limits of a point biserial coefficient of correlation, a procedure was presented for the estimation of the 5 per cent and 1 per cent fiducial limits of a point biserial coefficient. Based on recent theoretical developments proposed by Tate a new procedure was described and illustrated for the determination of the 5 and 1 per cent fiducial limits of the coefficient. The methods described should be of practical value to educational research workers who have occasion to interpret the reliability of a point biserial coefficient in item-analysis work and in prediction studies involving a truly dichotomous criterion.

Demonstration of a Relationship Between Item Difficulty and Item Validity. Leonard W. Towner, Long Beach State College.

This study shows that the statistical significance of the item discrimination obtained by the Kelley method varies with the item difficulty. The method was to substitute the proportions passing an item in the top and bottom criterion groups in the Fisher "t" test for the significance of the difference between uncorrelated proportions.

When the first and second derivatives of this equation were taken with respect to the item difficulty, it was found that the item discrimination needed for significance at any confidence level reached a maximum at the point where 50 per cent of the criterion group passed the item.

The results suggest further that either a table or an abac should be set up that could be used to determine the significance of the discriminations found for items of varying difficulty.

VIII. TEST DEVELOPMENT

An Assessment of Some Attitudes Toward Minority Groups Among Fourth, Fifth and Sixth Graders. Patricia Buchanan, Fresno State College.

This study was made by a group of students in a Children's Literature course at Fresno State College concerned with how children's attitudes toward other peoples can be built through what they read or hear on the radio or television. A total of 747 fourth, fifth, and sixth grade children in Fresno City and County Schools were included in two surveys.

Each child in a group where certain "stories" were read was given a photographic reproduction of a poster made of a collection of pictures each showing one or two "foreign" or "dark skinned" people with white people. It was attempted to avoid in the pictures either clothing or facial expression which might influence the children's choices. Children were asked to indicate "good" or "bad" people when they read the "stories," with no discussion preceding this. In a second situation the children were presented with little "stories" about "good" or "bad" people

accompanied with Anglo-Saxon as well as "foreign sounding" names, and asked to underline the name of the "good" or "bad" person.

Tabulation of results showed no pronounced tendency to choose non-whites as "bad" in the picture situation, except in one area with a large non-white population where white children showed some tendency to choose non-white as "bad." In the survey using names there was no general tendency to associate "foreign sounding" names with bad people, but there was some tendency to choose Anglo-Saxon as "good." The study arrives at no "world shaking" conclusions but shows there seems to be some good work in inter-cultural education in these schools. It shows also that being in contact with minority groups does not necessarily build good attitudes.

A Study of Some Aspects of the Kent E.G.Y. Scales. Stan M. Goertzen, Alameda County Schools.

The present study is an evaluation of the Kent E.G.Y. Scales as a school screening device to determine whether or not it is a refinement of the group I.Q. and could serve as a check on the intelligence found by othr means. Scores from Kent E.G.Y. Scales, standard group tests, and the Wechsler verbal and full scales were compared using a sample of 104 public school children, grades one through twelve.

The data suggest that the Kent Scales appear to be fairly satisfactory as a rough screening test for intelligence up to about the chronological age of eleven. The group test scores more closely approximate the Wechsler scores than the Kent scores do. The "top" on the Kent is too low. The mean Kent I.Q. is a good approximation of the group of Wechsler mean scores. If one is describing a group instead of an individual, the Kent Scales would serve well. It did not, in this sample, give a very reliable I.Q.; it does not appear to be a refinement of the group I.Q. and it is only a fair check on intelligence found by other means.

The Effect of Amount of Model Success Upon Imitative Behavior of Adolescents. Evan R. Keislar, University of California, Los Angeles.

Three S's at one time, each S seated in a separate booth to protect his identity, responded to four-choice size-estimation items, previously selected for equal alternative plausibility, after being shown presumably the responses of the other two persons. These responses of the two "models" were in actuality randomly preassigned and operated by E. Only during training, between the pre-test and post-test, were S's after responding informed which of the S's or models' responses were "correct." The left-hand model "answered correctly" 85 per cent of the items in experimental group I, 60 per cent in group II, and 40 per cent in group III while the right-hand model succeeded on 40 per cent, 60 per cent, and 85 per cent, respectively, of the items for these groups. The hypothesis was confirmed that the amount of gain in imitation of a model, where the amounts of success of two models are inversely related, is a function of the amount of success of that model.

A Comparison of Three Varieties of Problem Training in Human Problem Solving. Lloyd N. Morrisett, Jr.,* University of California, Berkeley, and Carl I. Hovlund, Yale University.

Sixty-three subjects, divided into three groups, were given different distributions of discrimination problem training and then tested on the same transfer problem. Group I received 192 training trials on a single problem. Group II received 192 training trials divided equally among three problems. Group III received 192 training trials divided equally among twenty-four problems. On the transfer test Group II proved to be superior to the combination of Groups I and III while Group I was superior to Group III. On the basis of these results and an

* Presented the paper.

analysis of similar experimental situations, it is concluded that successful problem training of this type depends on two conditions: (1) the opportunity to make several successive correct responses within a problem, and (2) the opportunity to establish a learned generalization between problems.

A Study of Sixth Grade Pupils' Reactions to Situations Involving the Element of Malicious Mischief. Alvin E. Robinson, Porterville Elementary School District.

Through the use of twelve court cases rewritten on the level of sixth grade children, an effort was made to determine what standards children of this age apply in making decisions when faced with situations involving malicious mischief. Since the sample population (2,613) was defined as representative of the general population in terms of location and size of community, and no significant differences existed in their responses, it was assumed that their answers were indicative of sixth grade pupils in general.

From the results of the present study, it can be recommended that the public schools need to help children establish standards of conduct in moral situations, that these same children be helped to place the appropriate values on the factors which cause conflicts among people, and that the training should be a developmental type of instruction.

IX. INSTRUCTIONAL PROGRAM STUDIES

A Report on the Napa Elementary School District Musical Aptitude Study, Spring 1956. Richard R. Bentley, Napa Junior College.

In the Spring of 1956 the Napa Elementary School District conducted a comprehensive musical aptitude survey in grades four, five, and six to help the room teachers and special music teachers to better understand the musical capacities of the individual children. *A Test of Musicality* by E. Thayer Gaston was selected as a testing instrument suitable for use on these grade levels.

The percentile norms of the Napa students were consistently lower than the norms presented in the test manual. Obviously, the fourth, fifth, and sixth grade students in Napa were not on a par with the normative sample. However, it must be noted that the published norms for the Gaston *A Test of Musicality* are based on an exceedingly small number of students. It was suggested by the room teachers that the present test was too long, particularly for the fourth grade students. As the first part of the follow-up study, the coefficient of correlation was calculated for the Napa fourth grade students between the first three parts of the test and the test total. Correlations were found to be low.

Percentile norms for the first three parts of the test were computed. When the percentile score for the first three parts was compared with that of the total test it was found that 35 per cent of the girls and 35 per cent of the boys had the same percentile scores. Further, 35 per cent of both fourth grade girls and fourth grade boys were in the next decile higher or lower. On this basis, use of the first three parts of the test alone would be warranted in the fourth grade.

A Program of Increased Services to Exceptional Children. Mary W. Bowers, Cupertino Union Elementary School District.

Developing an elementary school program for teaching physically handicapped, mentally retarded, educationally retarded, mentally gifted, emotionally and socially

maladjusted, and culturally exceptional children offers considerable promise for various "action research" studies. This report describes the establishment of a pilot program aimed at increasing the services to exceptional children. Assistance is given to the classroom teachers who are instructing typical unsegregated classes. A special teacher removes an exceptional child from the unsegregated class for short periods of instruction. Special materials which the child uses in the classroom also are provided. Evaluation of this program will be made through an analysis of teachers' ratings, parents' ratings, sociometric data, and achievement test data relating to the social, emotional, intellectual, and educational growth of those children in the program.

A Survey of Programs for Gifted Children in California Elementary School Districts. J. C. Gowan,* Los Angeles State College, and Juliana Gensley, Redondo City Schools.

To discover what elementary school districts in California are doing for gifted children, inquiries were sent to every county superintendent. In the thirty counties where programs exist, every county district received questionnaires.

454 replies were received, with 172 operating programs reported, 94 informal provisions, and 34 in the planning stage. Questionnaires covered grades served, types of programs, identification, curriculum adjustments, staff, materials, costs, acceptance by teachers, parents and public, and inception dates. Districts were asked about their experiences in evaluating programs, and for advice regarding beginning programs. Answers indicated that interest in gifted children has increased rapidly in recent years, with alert administrators and teachers developing suitable methods involving acceleration, enrichment, and grouping.

A Report on the "O" Program at Bakersfield College. Mary Woodworth Watrous, Bakersfield College.

The pilot "O" program at Bakersfield College was designed to meet needs of students unable to accept the prescribed curriculum, terminal or transfer. Students were tested and placed in classes where they were instructed at their achievement level. Purpose of the study was to learn as much as possible concerning academic performance and potential of this group in an effort to determine whether such instruction represented real value.

Of certain limitations inherent in the study, most important was that student numbers were not large enough to be statistically significant. First semester results revealed areas of student success and failure, a more accurate statistical picture of this group of students, and most important, pinpointed areas in which research would be necessary before the problem of slower learners at the junior college level can be solved. It was suggested that the project be extended into a cooperative investigation by junior colleges of California.

On April 1, 1957, the California State Personnel Board issued a report on a special survey of salaries for physicians and surgeons in the Los Angeles and San Francisco Bay areas. The survey covered 407 full-time and 46 part-time physicians and surgeons employed by thirty-three different firms. The median monthly salary for full-time physicians was found to be one thousand dollars. The weighted average was $976; while the interquartile range was from $845 to $1083 per month.

* Presented the paper.

Book Reviews

IN-SERVICE EDUCATION for Teachers, Supervisors and Administrators

The Fifty-Sixth Yearbook of the NATIONAL SOCIETY FOR THE STUDY OF EDUCATION, Part I

Chicago: The University of Chicago Press, 1957. 376 pages

Although it has many ramifications, in-service education has a peculiarly close connection to research. It is only by producing changes in educators already on the job that new research findings become useful in the present generation. Furthermore, it is only through the cooperation of working educators that many research activities concerning educational processes in school situations can be conducted. This relationship is most intimate when research methods are used by educators to test and evaluate current practices and proposed changes. This "action research" is given much attention in the NSSE's *Fifty-Sixth Yearbook*. In fact, the whole volume is built around the concept that in-service education and "action research to improve school practices" are two aspects of the same thing.

The first five chapters are devoted to a general introduction written by Stephen M. Corey, a discussion of the growth and development of in-service training, a survey of present practices, and a theoretical development of the nature and technique of in-service education. The material appears to be top-notch. The historical sketch in the third chapter is particularly good in its explanation of why in-service education was originally based on an assumption of teacher incompetence; and in is description of how that assumption has been outgrown—although a few vestiges remain.

The book contains sections on current in-service programs; and on the organization, evaluation, and staffing of programs. These are good. The chief weakness is the lack of recognition of the role of local faculty clubs and of other local professional organizations in promoting and carrying out in-service programs. However, on the whole these sections are complete and will serve both as a good introduction to the beginner and as a good reference for the more experienced teacher.

The best section of the book is the one on the roles of teachers, administrators, and consultants. It seems probable that the editors chose the order in which the roles are discussed with the deliberate intention of emphasizing the central role of the teacher. Whether they did or not, they are to be congratulated on the way in which they present the real problems involved in conducting a program of in-service education. The frank description of some of the lip-service paid in too many situations to "democracy" are very refreshing. The blunt recognition of the existence of a school hierarchy and of its effects is particularly commendable.

This book is so good that it emphasizes the defects of yearbooks. It is too bad that it was not edited into a coherent whole by a single editor or editorial committee. The articulation between the chapters is quite poor. The very real differences in emphasis and philosophy exhibited by the various authors are not clearly pointed out to the reader in very many cases. The result is that what should be a very significant contribution has been reduced to just another confused and obscure collection of fragments. However, they are fragments well worth inspecting. The book is recommended to all educators interested in improving themselves and the profession.

MODERN PUBLIC OPINION

WILLIAM ALBIG

New York: McGraw-Hill Book Company, Inc., 1956. 518 pages. $6.60

This is a fascinating book. The author does spend considerable space in theoretical and practical discussions of what constitutes public opinion; but he devotes his best writing to describing and evaluating such things as propaganda, mass media, public opinion polls, and commercial publicity campaigns. He makes wide use of examples from contemporary events or from the recent past.

Probably the best part of the book is that devoted to the measurement of public opinion. His description of the development of polls and of their successes and failures is excellent. Excellent, too, is his realistic and scholarly evaluation of their significance. Those who wonder how much reliance can be placed in polls, and those who wonder whether or not they will make elections obsolete, can all profit from the chapters devoted to measurement.

This book is also recommended to those who have too much faith in the power of publicity and propaganda. The author demonstrates conclusively that neither a good public relations program nor outright propaganda can substitute for real accomplishments. He shows how, despite all the propaganda power of a totalitarian government, the morale of the Germans during the World War depended directly on the actual military situation. He also shows that a like correlation between public opinion and objective reality existed on our side. It would appear from this book that there is scientific proof of Lincoln's statement that "you can't fool all of the people all of the time."

Since education is controlled by the public and financed by taxes that it votes, school people should all be well acquainted with the contents of this volume. It is, of course, particularly useful for administrators and the research persons who are called on to advise them. It is recommended reading for all *CJER* subscribers.

CALIFORNIA JOURNAL OF EDUCATIONAL RESEARCH

Published by
California Teachers Association
693 Sutter Street
San Francisco 2, California

INFORMATION AND INSTRUCTIONS REGARDING MANUSCRIPTS

The **California Journal of Educational Research** welcomes original manuscripts on educational research. The types of material desired are:

1. City and county school research pertaining to curriculum, guidance and counseling, evaluation, supervision, and finance.
2. Digests of theses and dissertations that have practical application. Such theses and dissertations, however, must officially be approved for publication by a member of the Editorial Board (see names on inside of front cover) or by the college or university at which the research was done.
3. Studies that present novel, but tested, approaches to the solution of educational problems.

Manuscripts, except for feature articles, should be limited to approximately 1500 words. They should be typewritten double-spaced, on one side of the paper, and submitted in duplicate. Only original manuscripts will be accepted for publication.

Tables, charts and graphs often enhance a research report. When used, they should be clearly and accurately labeled. They should also be inked to size and their places designated in the manuscript.

Footnotes should be complete as to author, title, publisher, date and pages. Bibliographies accompanying manuscripts should also be complete as to data, and should be arranged alphabetically by authors.

Manuscripts will not be returned unless the author so requests, in which case a stamped, self-addressed envelope should accompany the manuscript.